

# Class Tasks A1.1

## Database Key Concepts

### Student Worksheet



### Class Task 1.1.1 – Data and Information

- Look at the following list of Items for each given scenario.
- Identify whether these are data or information and explain why. The first one has been done for you. If the item is information, what calculations are being carried out?
- Discuss your findings with the group.
- **Time allowed:** 12 minutes.

#### Scenario 1 – A Vehicle Database for a Car Rental Company.

A company rents out vehicles to customers. Vehicles can have different fuel types (e.g., petrol, diesel or electric). Each vehicle could be a car or van and has a different cost. Customers hire vehicles out on a date and then return them on another date.

#### Suggested Answers

| Item                        | Data or Information? | Reason                                                             |
|-----------------------------|----------------------|--------------------------------------------------------------------|
| Vehicle Registration Number | Data                 | Represents a single fact about a vehicle – the registration number |
| Fuel Type                   |                      |                                                                    |
|                             |                      |                                                                    |
|                             |                      |                                                                    |
|                             |                      |                                                                    |
|                             |                      |                                                                    |
|                             |                      |                                                                    |
|                             |                      |                                                                    |
|                             |                      |                                                                    |
|                             |                      |                                                                    |



## Scenario 2 – A DVD Database for a Media Sales Company.

A company has a stock of DVDs for sale both in store and online. The company always has a certain number of these in DVDs in stock and records the number of items sold in any customer order.

### Suggested Answers

| Item     | Data or Information? | Reason                                                                    |
|----------|----------------------|---------------------------------------------------------------------------|
| Title    | Data                 | Represents a single fact about a DVD – the title of the film or TV series |
| Director |                      |                                                                           |
|          |                      |                                                                           |
|          |                      |                                                                           |
|          |                      |                                                                           |
|          |                      |                                                                           |
|          |                      |                                                                           |
|          |                      |                                                                           |
|          |                      |                                                                           |



### Class Task 1.1.2 – Tables, Columns and Rows

- You have been given two scenarios and some data.
- For each identified data item for each scenario, identify whether it is a table, record, field or cell.
- Discuss your findings with the group.
- **Time allowed:** 10 minutes.



## Scenario 1 – A Vehicle Database for a Car Rental Company.

A company rents out vehicles to customers. Vehicles can have different fuel types (e.g. petrol, diesel or electric). Each vehicle could be a car or van and has a different cost. Customers hire vehicles out on a date and then return them on another date.

| tblVehicleRental     |              |           |  |  |  |  |  |
|----------------------|--------------|-----------|--|--|--|--|--|
| Vehicle Registration | Vehicle Make | Fuel Type |  |  |  |  |  |
| RX454BP              | Ford         | Petrol    |  |  |  |  |  |
|                      |              |           |  |  |  |  |  |
|                      |              |           |  |  |  |  |  |
|                      |              |           |  |  |  |  |  |
|                      |              |           |  |  |  |  |  |
|                      |              |           |  |  |  |  |  |
|                      |              |           |  |  |  |  |  |
|                      |              |           |  |  |  |  |  |

### Suggested Answers

| Data Item    | Type |
|--------------|------|
| BMW          |      |
| Vehicle Make |      |
|              |      |
|              |      |
|              |      |
|              |      |
|              |      |
|              |      |



## Scenario 2 - A DVD Database for a Media Sales Company.

A company has a stock of DVDs for sale both in store and online. The company always has a certain number of these in DVDs in stock and records the number of items sold in any customer order.

| tblDVDStockItems |             |  |  |  |  |  |  |
|------------------|-------------|--|--|--|--|--|--|
| DVD Title        | Director    |  |  |  |  |  |  |
| Up               | Pete Doctor |  |  |  |  |  |  |
|                  |             |  |  |  |  |  |  |
|                  |             |  |  |  |  |  |  |
|                  |             |  |  |  |  |  |  |
|                  |             |  |  |  |  |  |  |
|                  |             |  |  |  |  |  |  |
|                  |             |  |  |  |  |  |  |
|                  |             |  |  |  |  |  |  |

### Suggested Answers

| Data Item | Type |
|-----------|------|
| Rating    |      |
| Item Cost |      |
|           |      |
|           |      |
|           |      |
|           |      |
|           |      |
|           |      |



### Class Task 1.1.3 – Datatypes

- Look at the scenarios given to you.
- For each field, identify the Datatypes as well as any possible alternatives. Justify your selection.
- Discuss your findings with the group.
- **Time allowed:** 10 minutes.

#### Scenario 1 – A Vehicle Database for a Car Rental Company.

A company rents out vehicles to customers. Vehicles can have different fuel types (e.g., petrol, diesel or electric). Each vehicle could be a car or van and has a different cost. Customers hire vehicles out on a date and then return them on another date.



| tblVehicleRental |                      |              |  |  |  |  |  |  |
|------------------|----------------------|--------------|--|--|--|--|--|--|
| ID               | Vehicle Registration | Vehicle Make |  |  |  |  |  |  |
| 1                | RX45 4BP             | Ford         |  |  |  |  |  |  |
|                  |                      |              |  |  |  |  |  |  |
|                  |                      |              |  |  |  |  |  |  |
|                  |                      |              |  |  |  |  |  |  |
|                  |                      |              |  |  |  |  |  |  |
|                  |                      |              |  |  |  |  |  |  |
|                  |                      |              |  |  |  |  |  |  |

### Suggested Answers

| Field                | Datatype | Alternate Datatype | Justification |
|----------------------|----------|--------------------|---------------|
| ID                   |          |                    |               |
| Vehicle Registration |          |                    |               |
|                      |          |                    |               |
|                      |          |                    |               |
|                      |          |                    |               |
|                      |          |                    |               |
|                      |          |                    |               |
|                      |          |                    |               |
|                      |          |                    |               |



## Scenario 2 – A DVD Database for a Media Sales Company.

A company has a stock of DVDs for sale both in store and online. The company always has a certain number of these in DVDs in stock and records the number of items sold in any customer order.

| tblDVDStockItems |           |             |  |  |  |  |  |  |
|------------------|-----------|-------------|--|--|--|--|--|--|
| DVD ID           | DVD Title | Director    |  |  |  |  |  |  |
| 101              | Up        | Pete Doctor |  |  |  |  |  |  |
|                  |           |             |  |  |  |  |  |  |
|                  |           |             |  |  |  |  |  |  |
|                  |           |             |  |  |  |  |  |  |
|                  |           |             |  |  |  |  |  |  |
|                  |           |             |  |  |  |  |  |  |
|                  |           |             |  |  |  |  |  |  |
|                  |           |             |  |  |  |  |  |  |



### Suggested Answers

| Field            | Datatype | Alternative Datatype | Justification |
|------------------|----------|----------------------|---------------|
| <b>DVD ID</b>    |          |                      |               |
| <b>DVD Title</b> |          |                      |               |
|                  |          |                      |               |
|                  |          |                      |               |
|                  |          |                      |               |
|                  |          |                      |               |
|                  |          |                      |               |
|                  |          |                      |               |
|                  |          |                      |               |



### Class Task 1.1.4 – Primary Keys

- Look at the scenarios given to you.
- For each field, identify whether it is a key or non-key field, and the key type.
- Discuss your findings with the group.
- **Time allowed:** 5 minutes.

#### Scenario 1 – A Vehicle Database for a Car Rental Company.

A company rents out vehicles to customers.

Vehicles can have different fuel types (e.g., petrol, diesel or electric). Each vehicle could be a car or van and has a different cost.

Customers hire vehicles out on a date and then return them on another date.



| tblVehicleRental |                      |              |  |  |  |  |  |  |
|------------------|----------------------|--------------|--|--|--|--|--|--|
| ID               | Vehicle Registration | Vehicle Make |  |  |  |  |  |  |
| 1                | RX45 4BP             | Ford         |  |  |  |  |  |  |
|                  |                      |              |  |  |  |  |  |  |
|                  |                      |              |  |  |  |  |  |  |
|                  |                      |              |  |  |  |  |  |  |
|                  |                      |              |  |  |  |  |  |  |
|                  |                      |              |  |  |  |  |  |  |
|                  |                      |              |  |  |  |  |  |  |

#### Suggested Answers

| Field                | Key / Non Key | Key Type |
|----------------------|---------------|----------|
| ID                   |               |          |
| Vehicle Registration |               |          |
|                      |               |          |
|                      |               |          |
|                      |               |          |
|                      |               |          |
|                      |               |          |
|                      |               |          |
|                      |               |          |



## Scenario 2 – A DVD Database for a Media Sales Company.

A company has a stock of DVDs for sale both in store and online.

The company always has a certain number of these in DVDs in stock and records the number of items sold in any customer order.

| tblDVDStockItems |           |  |  |  |  |  |  |  |
|------------------|-----------|--|--|--|--|--|--|--|
| DVD ID           | DVD Title |  |  |  |  |  |  |  |
| 101              | Up        |  |  |  |  |  |  |  |
| 102              | Jaws      |  |  |  |  |  |  |  |
|                  |           |  |  |  |  |  |  |  |
|                  |           |  |  |  |  |  |  |  |
|                  |           |  |  |  |  |  |  |  |
|                  |           |  |  |  |  |  |  |  |
|                  |           |  |  |  |  |  |  |  |

### Suggested Answers

| Field     | Key / Non-Key | Key Type |
|-----------|---------------|----------|
| DVD ID    |               |          |
| DVD Title |               |          |
|           |               |          |
|           |               |          |
|           |               |          |
|           |               |          |
|           |               |          |
|           |               |          |





No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the TheComputingTutor Ltd.

